

IPMA6212

IPMA6212 ASSIGNMENT 2

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TABLE OF CONTENTS

TABLE OF FIGURES.....	2
TABLE OF TABLES	2
Problem Statement.....	3
Anonymous Incident Reporting App.....	3
Question 1	3
Q1.1) Project Evaluation Form.....	3
Q1.2) Project Identification	4
Cross-platform development definition.....	4
Cross-platform development timeline	4
Three Potential risks.....	4
Enhancements of UX and usability	4
Q1.3) Project Charter.....	5
Purpose.....	5
Description	5
Funding:.....	5
Major Deliverables.....	7
Milestone Schedule	7
Question 2	8
Question 3	9
Q3.1) MS/Gantts.....	9
Q3.2) Screenshot Issues	10
Question 4	11
Question 5	13
Q5.1) Peer-Evaluation	13
Q5.2) Self Reflection Report	15
Introduction	15
Skills Learnt	16
Role in the Team.....	16
Research am Technologies.....	16
Personal Strengths and Weakness	16

Strengths:.....	16
Weaknesses:.....	17
Stakeholder Relationships.....	17
Impact.....	17
References	17

TABLE OF FIGURES

Figure 1: WBS	8
Figure 2: Activity diagram	9
Figure 3:Network diagram	11

TABLE OF TABLES

Table 1: The budget breakdown table.....	6
Table 2: Project timeline	7

Problem Statement

Anonymous Incident Reporting App

In many parts of South Africa, crimes such as housebreaking, hijacking, rape, and theft and many other crime or incidents like a house on a fire and accidents like that it happens often, but most of them are not reported to the police. People sometimes choose not to report these incidents because they are afraid, do not trust the system, or find the process too slow and complicated. This delay in reporting means that help arrives late, and criminals have more time to escape and do more damage to people's property.

Our group identified this as a serious issue in communities, especially in townships and rural areas. To help solve this problem, we decided to design an Anonymous Incident Reporting App. This mobile app will allow people to report crimes or emergencies without revealing their identity. Reports will be sent directly to both the police and community safety groups at the same time. This will make it easier for communities to react quickly and support law enforcement before the situation becomes worse.

The app will be simple to use and work even when there is no internet connection. It will also include location tracking to show where incidents happen and push notifications to alert nearby users. With these features, the app will help make communities safer, encourage people to report crimes, and improve the relationship between citizens and law enforcement.

Question 1

Q1.1) Project Evaluation Form

A Project Evaluation Form is important because it helps a project team decide if a project can be done successfully and if it is worth starting. It guides the team in checking key areas such as the time needed, the cost involved, possible risks, and the people or resources required to complete the work (PMI, 2021). By doing this, the form helps the team plan properly and avoid mistakes later in the project. It will make sure that the project aligns with the needs of the community which are safety, the goals of the organization, and the resources available. It also provides a way to look at how to distribute the costs, and the emergency of the project, making sure that there is no time wasting and the costs are not wasted.

For the Anonymous Incident Reporting App, this form is very useful. It helps the team plan how to use resources such as developers, designers, and testers in the best way. It also helps to estimate costs, making sure the project stays within the R1,750,000 budget. The form helps identify risks early, such as data security problems or users not adopting the app, so the team can find ways to reduce them. It also includes a timeline, which helps keep the project on track to finish within 12 months.

In short, the Project Evaluation Form helps the team make better decisions, manage time and money wisely, and avoid mistakes before the project starts.

Q1.2) Project Identification

Cross-platform development definition

Cross-platform development means creating an app using one codebase that works on both Android and iOS devices. Examples of frameworks are Flutter or React Native. This saves time, reduces the amount of coding, and helps the team work faster and within the project budget.

Cross-platform development timeline

Using a cross-platform approach will help the Anonymous Incident Reporting App meet its goals. Firstly, it saves time because developers only build the app once, not separately for Android and iOS, this is helpful in South Africa where people use many different types of phones. It is also easier to test and update and lastly, it supports the 12-month timeline and keeps the cost within the R1,750,000 limit (Warp, 2024).

Three Potential risks

According to Warp (2024):

- When there is an update in the framework, it might cause bugs in the code of the application.
- Device compatibility.
- Performance issues due to the native apps (Warp, 2024).

Enhancements of UX and usability

According to Warp (2024) to improve the user experience (UX) and usability, the app will have:

- A simple interface with large, clear buttons for different incident types.
- Categorized options (e.g., crime, accident, environmental hazard) for easy navigation.
- Offline functionality, allowing reports to be submitted without internet access.

- Fast response time (5–10 seconds) to ensure reports are processed quickly.
- Push notifications to alert users of nearby incidents or responses.

Q1.3) Project Charter

According to the lecture slides, the project charter contains 5 stages which are:

Project Title:

Anonymous Incident Reporting Application

Purpose

- The purpose of the project is to design, develop, test, then deploy the anonymous reporting application within the 12-month period. The application will be accessible on IOS and Android, the app will make sure that the users are anonymous, and the application provides notification to the authorities in real time.
- Communities in South Africa have issues that are related to crime, and environmental risks that can sometimes go unreported because of the fear of being victimized or having lack of platforms where you can report. This project will make sure a mobile application is created so that individuals can report an incident anonymously, making sure that communities are safer and there will be faster response from the police or authorities.

Description

This project will involve planning, designing, developing, and deploying a safe cross-platform mobile application that will allow the user to be able to report crimes anonymously, report unsafe infrastructure, and environmental risks such as fire, or floods. The reports will be sent safely to the authorities (SAPS, Local security). The application must be able to work in areas of low connectivity, or areas that do not have any network connection, the app must support media reporting, for example texts, images, and location. It will also have an encrypted backend so that the data will be security. The project will be executed within 12 months with a budget of R1 750 000.

Funding:

Category	Amount (R)
Design and Development	500,000
Database Infrastructure and Security	450,000
Quality Assurance and Testing	350,000
Deployment and Maintenance	250,000

Promotion and User Training	200,000
Total	1,750,000

Table 1: The budget breakdown table

Major Deliverables

1. Documentation - Documentation of Requirements.

2. Design and Prototyping – A clickable prototype without backend

3. App Development:

- Backend Development - Application working on cross-platform mobile applications such as Android and IOS
- Frontend Development - Having a secure backend with a database that is encrypted

4. Testing and Quality Assurance - The user testing and the report of the quality assurance

5. Deployment and Training - Training the users and having the user guides.

Milestone Schedule

Milestone	Description	Timeline (Month)
1. Prototype and UI/UX Design Completed	Completion of the first working prototype with a simple and user-friendly interface.	Month 3–4
2. Backend and Core Feature Integration Completed	Database, GPS, and authentication systems integrated and tested.	Month 5–6
3. App Development and Internal Testing Completed	Core development finished for Android and iOS; internal testing completed.	Month 7–8
4. Security and Encryption Finalised	Data encryption and system protection implemented and verified.	Month 9–10
5. Final Documentation and Deployment	Preparation of documentation and full release of the application.	Month 11–12

Table 2: Project timeline

Question 2

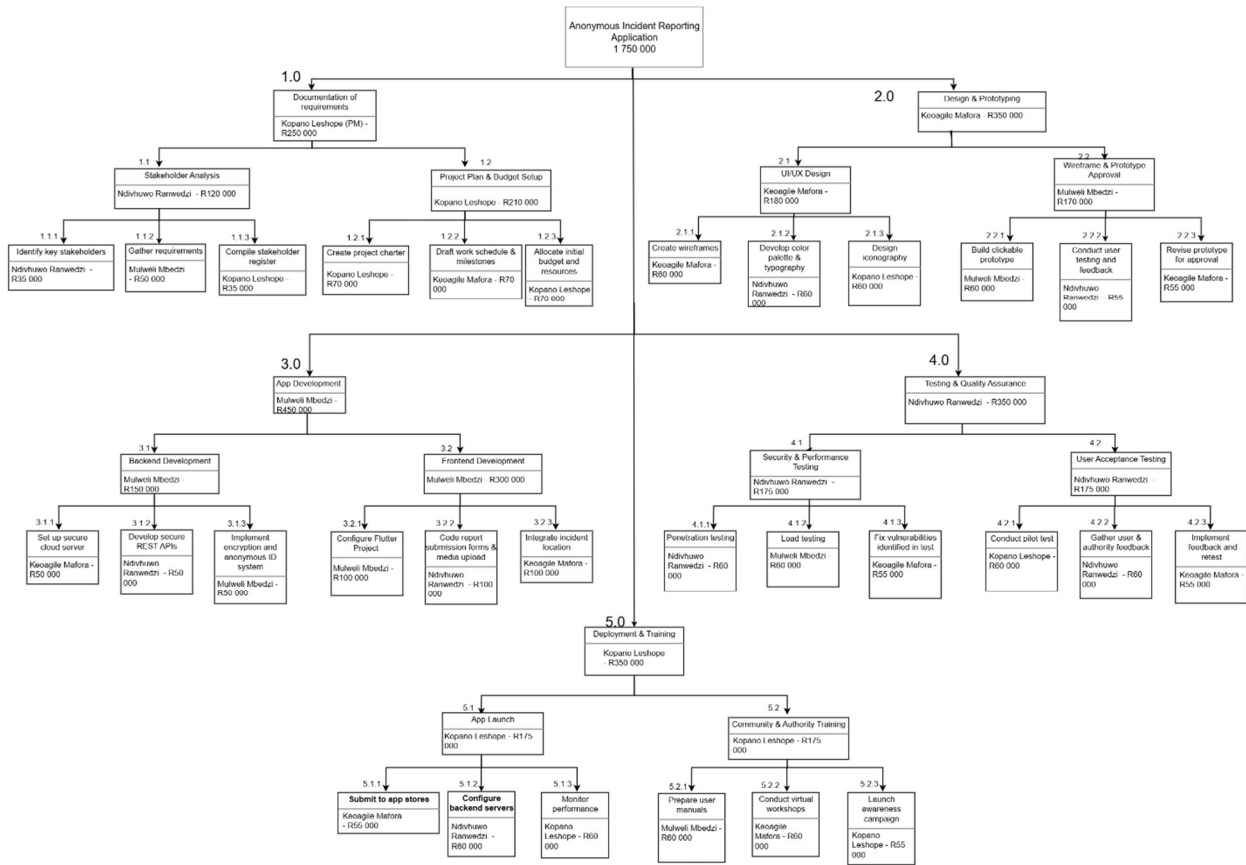


Figure 1: WBS

PLEASE ZOOM IN TO SEE THE DIAGRAM PROPERLY!

Question 3

Q3.1) MS/Ganttts

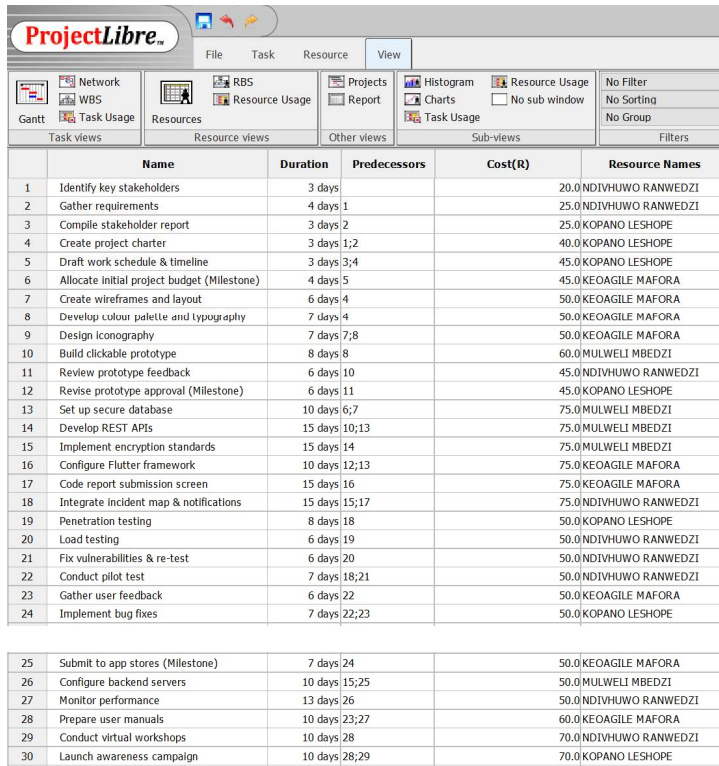


Figure 2: Activity diagram

Q3.2) Screenshot Issues

The screenshot shows the GitHub interface for the repository 'KeoagileM / Anonymous-Incident-Response'. The top navigation bar includes links for Code, Issues (6), Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. A search bar is located on the right. Below the navigation bar, the 'Issues' tab is selected, displaying a list of open issues. The issues are sorted by 'Newest' and include a search filter 'is:issue state:open'. The list of issues is as follows:

Issue Title	Author	Labels	Projects	Milestones	Assignees	Created
Deployment and training	KeoagileM					opened now
QA Testing	KeoagileM					opened 1 minute ago
App development	KeoagileM					opened 2 minutes ago
UI/UX Designer	KeoagileM					opened 4 minutes ago
Documentation issue	KeoagileM					opened 4 minutes ago
IPMA6212 issue	KeoagileM					opened 16 minutes ago

Question 4

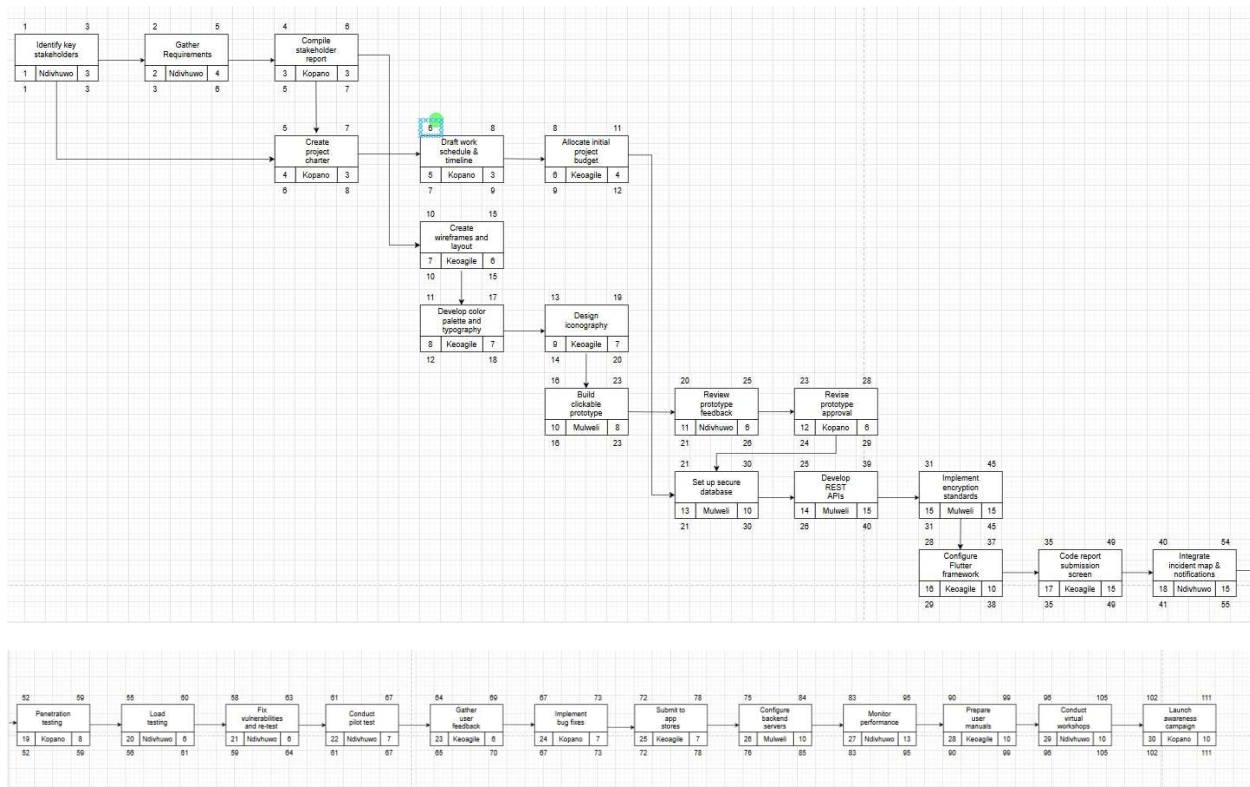


Figure 3: Network diagram

PLEASE ZOOM IN TO SEE THE DIAGRAM PROPERLY!

Path ID	Activity Sequence	Duration Calculation
A	1 - 2 - 3 - 5 - 6 - 13 - 14 - 15 - 18 - 19 - 20 - 21 - 24 - 25 - 26 - 27 - 30	$3 + 4 + 3 + 3 + 4 + 10 + 15 + 15 + 15 + 8 + 6 + 6 + 7 + 7 + 10 + 13 + 10 =$ 139 days
B	1 - 4 - 7 - 9 - 10 - 11 - 12 - 16 - 17 - 18 - 22 - 24 - 27 - 30	$3 + 3 + 6 + 7 + 8 + 6 + 6 + 10 + 15 + 15 + 7 + 7 + 13 + 10 =$ 122 days
C	4 - 8 - 9 - 13 - 15 - 19 - 20 - 22 - 23 - 28	$3 + 7 + 7 + 10 + 15 + 8 + 6 + 7 + 6 + 10 =$ 79 days

D	7 - 10 - 14 - 15 - 19 - 21 - 26 - 27	$6 + 8 + 15 + 15 + 8 + 6 + 10 + 13 = \mathbf{81}$ days
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Critical path = A = 139 days

Question 5

Q5.1) Peer-Evaluation

<u>Name of student being evaluated:</u>		Ndivhuwo Ranwedzi		
		Seldom	Frequently	Always
<u>The student's personal work:</u>		0	1	2
1	The student contributed good ideas that added value to the project and produced high quality work.			X
2	The student performed their tasks in line with what was expected of them.			X
3	The student managed their own time well and met deadlines.			X
<u>The student's work as part of a team:</u>				
4	The student accepted responsibility for a fair portion of the tasks and was an enthusiastic member of my team.			X
5	The student helped others to be successful and worked well with other members of the team.			X
Weighting				10/2
<u>Total</u>				5 /5

<u>Name of student being evaluated:</u>		Mulweli Mbedzi		
		Seldom	Frequently	Always
<u>The student's personal work:</u>		0	1	2
1	The student contributed good ideas that added value to the project and produced high quality work.			X
2	The student performed their tasks in line with what was expected of them.			X
3	The student managed their own time well and met deadlines.			X
<u>The student's work as part of a team:</u>				
4	The student accepted responsibility for a fair portion of the tasks and was an enthusiastic member of my team.			X
5	The student helped others to be successful and worked well with other members of the team.			X
Weighting				10/2
<u>Total</u>		5 /5		

<u>Name of student being evaluated:</u>		Kopano Leshope		
		Seldom	Frequently	Always
<u>The student's personal work:</u>		0	1	2
1	The student contributed good ideas that added value to the project and produced high quality work.			X
2	The student performed their tasks in line with what was expected of them.			X
3	The student managed their own time well and met deadlines.			X
<u>The student's work as part of a team:</u>				
4	The student accepted responsibility for a fair portion of the tasks and was an enthusiastic member of my team.			X
5	The student helped others to be successful and worked well with other members of the team.			X
Weighting				10/2
<u>Total</u>		5 /5		

Q5.2) Self Reflection Report

Introduction

This project was mainly designing and managing an Anonymous Incident Reporting Mobile Application that will allow community members to report unsafe structures, crime, and environmental hazards anonymously. This assignment aim is to develop both technical and managing skills by applying project management methodologies, for example, PMBOK and Agile methodologies. In this experience, I learned the value of teamwork, the ability to balance technological changes with social impact, and time management.

Skills Learnt

Technical Skills: I improved my ability to research cross-platform frameworks such as Flutter and React Native, and my ability to research relevant technologies. I also learned more about how to design a Work Breakdown Structure (WBS) and use tools such as MS Project and GitHub for tracking our tasks. These tools help with scheduling, resource allocation, and version control.

Communication and Teamwork Skills: Throughout my collaboration with Ndivhuwo Ranwedzi, Kopano Leshope (The Team Leader), and Mulweli Mbedzi, I learned how to show my ideas clearly and provide feedback that was constructed skillfully. My team and myself having regular meetings required us to have active listening skills and we discussed the compromised when we had opinions that differed. This helped with my collaboration skills.

Management Skills: We had a small team meaning each of us had multiple responsibilities, this improved our time management and organizational skills.

Role in the Team

In the group my primary role was as a researcher and documentation coordinator. I gathered data in the user-interface requirements, having guidelines for cross-platform design, and having a good consideration for anonymous reporting. I followed my leader effectively by reviewing the project charter and making sure that the WBS aligns with the deliverables.

Research am Technologies

My research contained analysis of articles on cross-platform app development and the technologies of community safety. We used online sources to compare frameworks to identify the development cost. For the documentation, I relied on the MS Word, MS Project, and GitHub to record and show information clearly.

Personal Strengths and Weakness

Strengths:

- Strong analytical skills.
- Good communication skills.
- Good at meeting deadlines.
- The ability to adapt to new project management tools.
- The ability to maintain a positive group dynamic

Weaknesses:

I initially struggled when setting up MS Project. My time management was not perfect because I had to balance multiple academic modules while doing this assignment.

Stakeholder Relationships

Our group dynamic was always positive. Kopano provided structure in our group, then Mulweli and Ndivhuwo contribute insights in technical and design aspects. We maintained open communication, and we made sure that transparent feedback is present. For future collaborations, I will make sure that there is more check-ins and focus on continuous improvement.

Impact

My contributions improved the final submission's overall quality and credibility by making sure that risk analyses, usability considerations, and research evidence were all properly documented. Our team was able to stay in line with both academic and practical requirements thanks to this attention to detail. By suggesting creative testing techniques and automating portions of the reporting process to boost productivity, I hope to have a greater influence on upcoming projects.

Conclusion

All things considered, this project was a rewarding educational opportunity that connected IT project management theory and practice. I developed a better understanding of how effective communication, teamwork, and organized planning affect project success. In addition to solving a significant community issue, the Anonymous Incident Reporting App helped me advance professionally as a cooperative and introspective project team player.

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